

# Even More Graphing<sub>1</sub>

Name: \_\_\_\_\_

A student runs one lap around the track and then stops to immediately measure the number of beats her heart makes in one minute (bpm). The experiment is then repeated several times. Each time the number of laps around the track is increased. The data is shown below.

Number of Laps	Heart Rate (bpm)
1	68
2	74
4	88
6	102
8	117

- Which variable is the independent variable and which is the dependent variable?
  - Independent variable = \_\_\_\_\_
  - Dependent variable = \_\_\_\_\_
- There are 20 blocks along each of the axes. Decide on a scale and sketch it in with pencil. Then ask your teacher if your scale is correct before you plot your points.
- Plot your points.
- Sketch in a "best fit" line for the points. Check with your teacher before continuing.
- What is the Y-intercept for the line that you just drew? \_\_\_\_\_  
(Be sure to include a unit with your answer.)
- Explain the MEANING of the Y-intercept for this graph.
- What is the slope of this graph? Be sure to show your work. Include a unit with your answer.

$$\text{slope} = \frac{\text{Rise}}{\text{Run}} \quad \text{slope} = \frac{y_2 - y_1}{x_2 - x_1}$$
- Explain the MEANING of the slope of the graph. Your answer MUST include numbers in the explanation.

